ABSTRACT OF THE DISCLOSURE

The present invention sets forth a method and apparatus for estimating Doppler spread associated with a Rayleigh or fast fading channel established between a radio base station and a mobile radio station. In particular, the Doppler spread is estimated through calculation of the autocorrelation function of a sequence of complex channel estimates determined from a known sequence in the received signal. More specifically, a sequence of complex channel estimates obtained from the known sequence in a first sampling interval is complex conjugated and then correlated with a sequence of complex channel estimates obtained from the known reference in a second sampling interval which have been not been complex conjugated. A zero crossing of the complex autocorrelation function is detected, and the estimated Doppler spread is calculated using this zero crossing and a Bessel function.